DOCUMENT RESUME

ED 100 790 SO 008 083

AUTHOR Saunders, Phillip
TITLE The Relevance of Economics in the High School: The Developmental Economic Education Program. SSEC Publication No. 131.
INSTITUTION Social Science Education Consortium, Inc., Boulder, Colo.
REPORT NO SSEC-PUB-131
PUB DATE 71
NOTE 39p.
AVAILABLE FROM Social Science Education Consortium, 855 Broadway, Boulder, Colorado 80302 (SSEC No. 131, $1.40, prepaid)

EDRS PRICE MF-$0.75 HC Not Available from EDRS. PLUS POSTAGE
DESCRIPTORS Concept Formation; Curriculum Planning; Decision Making Skills; *Economic Education; Economic Research; *Economics; Elementary Education; Elementary Secondary Education; Problem Solving; Process Education; *Relevance (Education); Secondary Education; Skill Development; Social Studies; *Teacher Education
IDENTIFIERS DEEP; *Developmental Economic Education Program

ABSTRACT

Because the economy is such an integral part of our social fabric, the inclusion of an economics program in K-12 curriculum is crucial in a contemporary social studies program. Most economic studies currently being "learned" are wrong, however, and must be changed. A strong case for the teaching of basic analytical skills rather than a particular body of subject matter is presented. These skills enable students to study other special problems or concerns as well as economics. The study of economics can aid decision-making and analytical skills in real-world policy problems. Teacher training programs and summer institutes for inservice teachers were conducted to implement a new economics curriculum. The Pittsburgh Developmental Economics Education Project (DEEP) is analyzed and is offered as a model for the successful implementation of economics into existing curriculum. (Author/JR)

ED100790

THE RELEVANCE OF ECONOMICS IN THE HIGH SCHOOL: THE DEVELOPMENTAL ECONOMIC EDUCATION PROGRAM

Phillip Saunders
Indiana University

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY
Social Science Consortium
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

Publication #131 of the Social Science Education Consortium,
Boulder, Colorado 80302

SO 008 083

Copyright 1971

BEST COPY AVAILABLE

FOREWORD

The following paper is an expanded version of a paper by Dr. Saunders presented at the 49th Annual Meeting of the National Council for the Social Studies in Houston, Texas, on November 28, 1969.

Saunders' paper accomplishes two tasks which are consonant with major goals of the SSEC. First, he makes a strong case for the teaching of basic analytical skills rather than any particular body of subject matter. Such skills are always "relevant" in the sense that they are useful in studying whatever special problems or concerns are currently labeled "relevant."

Secondly, Saunders presents detailed information about the classroom use of and test results on a particular economics curriculum project, Pittsburgh Developmental Economics Education Project (DEEP). A major purpose of the SSEC is to make available just such evaluative and analytical information about educational innovations. Additional information on Pittsburgh DEEP is available through other SSEC publications, Curriculum Materials Analyses #100, #122, and #147.

Irving Morrissett

February 1971

TABLE OF CONTENTS

Foreward	iii
Introduction	1
Economics as an Aid to Decision-Making	2
The National Task Force on Economic Education	4
The Materials Evaluation Committee	7
The Test of Economic Understanding	8
Teacher Training in Economics	9
Economics and the K-12 Social Studies Curriculum	12
The Pittsburgh Developmental Economic Education Program (DEEP)	13
Impact and Implications of the DEEP Project	18
Social Problems and Analytical Tools	20
Keeping Materials Current and Relevant	22
Choice and Values	23
Bibliography	26
Appendix	28

00095

THE RELEVANCE OF ECONOMICS IN THE HIGH SCHOOL:

THE DEVELOPMENTAL ECONOMIC EDUCATION PROGRAM (DEEP)

Phillip Saunders
Indiana University

'Relevance' is certainly the 'in' word these days. Unfortunately, it has different meanings and nuances for different people who use the term. In the dictionary sense of 'pertinent,' 'applying to,' or 'bearing down,' however, the case for the relevance of economics to the social studies curriculum of the elementary and secondary schools is an easy one to make. Since economics is such an integral part of our social fabric, no one should go through a contemporary social studies curriculum without learning a great deal of economics.

Unfortunately, however, much of the economics currently being 'learned' is just plain wrong. As a college teacher who encounters a new set of graduates from our social studies curricula in my introductory economics course every year, I am continually distressed by the number of students who 'know' and have 'learned' that the value of money depends on its gold backing, that the high standard of living in the United States is explained by its vast endowment of natural resources, that unemployment is the result of laziness and individual weakness, that personal finance and government finance are governed by the same principles, etc., etc. It is little wonder that the general discussion of basic social, economic, and political issues such as poverty, inflation, and tax reform sinks to such low levels when such 'knowledge' is brought to bear.

Economics as an Aid to Decision-Making

Make no mistake about it: many of our past, present, and future social problems have non-economic dimensions that are as important as, if not more important than, their economic aspects. Nevertheless, economics as the science that studies how men develop and allocate their limited resources to satisfy their competing wants and needs in a way that is compatible with the basic values of their societies has much to contribute to an understanding and analysis of these problems. Even when basic values are being brought into question (and may even be in the process of change) economics has a contribution to make. John R. Coleman has noted:

> The essential problem-solving process that is characteristic of an orderly mind--defining the problem, listing the alternatives, choosing among them, and checking the results--is not of course peculiar to economics. The special case for economics in the high school curriculum rests upon the existence of a body of tools that may be applied at all stages of the problem-solving process. Such tools have a key role in developing more orderly patterns of thought. (Coleman, April 1963, p. 187)

The tool kit of the professional economist certainly contains some rather imperfect and blunt instruments, but they are still an imposing and a useful set. Unfortunately, many professional economists have made the mistake of arrogantly trying to withhold the content of economics from the 'uninitiated,' while others have made the mistake of trying to indiscriminately lavish its entire content on an often confused and bewildered public. For these errors, we have been deservedly chastized. Thomas Carlyle's phrase 'the dismal science,' has become a part of our folklore, but even at that Edmund Burke long ago noted, "The age of chivalry is gone; that of sophisters, economists, and calculators has succeeded." Given this 'fact,' it is encouraging to note that there is increasing evidence that under certain circumstances it is possible for professional economists to communicate <u>effectively</u> their <u>basic</u>

insights and methods of analysis to others in a society that needs all of its citizens to be part of the economic decision-making process in their roles as consumers, producers, and voters.

Beneath all of its impressive superstructure and all of its analytical refinements, the essence of economics and economic thinking is the necessity for choice and the recognition of interdependence. Choice is necessary because of the basic economic fact of scarcity. Despite recent rumblings on the left, the sad fact is that we do not have enough resources to produce everything we want. If we use our limited resources to produce one set of goods and services, they are not available to produce other goods and services. Therefore, in a fully-employed economy, any decision to produce one thing is also a decision not to produce something else; and there is a real or opportunity cost associated with every economic decision. Often, however, these real or opportunity costs are not clearly recognized or considered in making economic decisions. *

The indirect or secondary consequences of economic decisions are also often overlooked because of a failure to recognize the basic interdependence of a world in which scarcity and opportunity costs exist. My favorite story in this area concerns how changing the price of hogs in Chicago led to a steel shortage in Pittsburgh and an oil shortage on the east coast of the United States during the days of price administration in World War II. (Silk and Saunders 1969, pp. 18-19) Kenneth Boulding, past President of the American Economic Association, has stated:

---

* Frederick Bastiat, the 19th-century French popularizer of classical economic thought, for example, emphasized the opportunity or unseen cost of economic transactions with the simple story of a broken window. (Silk and Saunders 1969, p. 18-19) Many of us still have not learned to look for the unseen aspects of economic decisions, but the recent debates over the Vietnam war and the space program (particularly going on to Mars) do seem to indicate an increasing public concern with the real cost of these endeavors in terms of the other uses to which the valuable resources involved could be put.

> The whole history of economic policy is a massive record of unintended consequences, some good and some bad. Perhaps one of the best things we could do for economic education would be to prepare a casebook of true economic horror stories, perhaps in comic book form. I can think of some delightful examples without even going to the library. In the mid thirties, for instance, the British government decided to assist the British pig industry by imposing an import quota on Danish bacon coming into England. Danish bacon and English bacon turned out not to be substitutes, and the British housewife had a strong preference for the Danish variety. The result of the import quota, therefore, was that the price of Danish bacon rose sharply, and the British actually paid the Danes more money for less bacon, improved the Danes' terms of trade very substantially, and the British pig industry continued to wallow in its own inefficiency. ...
>
> One could multiply horror stories about quotas and qualitative restrictions in the underdeveloped countries into the size of an encyclopedia. To be honest, however, the stories should also include the undeserved successes, of which American agricultural policy is probably the prize. Here we have the policy of price supports sold to Congress and the American people on the plea of economic justice and parity. ... From the point of redistribution, the policy is a dismal failure. From the point of view of economic development, however, it has been an uproarious success. Agriculture is the only sector of the American economy in the last thirty years in which the rate of increase of productivity has approached what might be called Japanese standards, rising actually about 6% per annum, per capita. This unquestionably has been in large part the result of the reduction in uncertainty to the individual enterprise and the incentives both to investment and technical change which the price supports indirectly produced. A casebook, therefore, should include some cases of how people did the right things for the wrong reasons, as well as the wrong things for the wrong reasons, and even some cases of people who did the wrong things for the right reasons, which seems to be peculiarly a device of the Russians, whose agricultural policy has been as disastrously unsuccessful as American agricultural policy has been undeservedly successful. (Boulding 1967, pp. 7-9)

Professor Boulding's suggested comic book of economic horror stories has yet to materialize, but the 1960's have seen an unprecedented amount of attention devoted to the cause of economic literacy in the schools. It is important that we familiarize ourselves with this effort and attempt to benefit from its shortcomings as well as its successes.

The National Task Force on Economic Education

A major landmark was reached in September 1961 with the publication of Economic Education in the Schools, the now famous report of the National

Task Force on Economic Education. The National Task Force brought together five of the nation's most distinguished economists and two of its leading professional educators in an attempt "to describe the minimum understanding of economics essential for good citizenship and attainable by high school students." (Economic Education in the Schools 1961, p. 4) The report thus outlined the main economic concepts and institutions which the Task Force felt students needed to understand in order to think for themselves about the economic problems they will face as individuals and citizens. The report is not, and was not intended to be, a textbook or lesson plan. Rather, it is a checklist of major issues, concepts, institutions, and subject matter, which stresses above all else helping students develop their own ability to reason about economic problems. The major purpose of the Task Force Report was to provide a point of reference from which teachers and curriculum directors could proceed. And in this purpose it has succeeded--although we still have a long, long way to go.

If one is to reason intelligently about economic problems, he needs some factual and institutional understanding of the situation in which the problems exist, he needs certain tools of analysis, and above all he needs a systematic way of thinking that puts the analytical tools to work on the problem situation in a rational, orderly way. In calling attention to the analytical aspects of this process, the Task Force did not say that factual and descriptive knowledge is not important, but it clearly implied that such knowledge alone is not enough for effective citizenship in our complex society.

Shortly after the Task Force Report was published a special textbook study committee of the Committee on Economic Education of the American Economic Association published a report on their survey of the leading high school textbooks in economics, social problems or problems of democracy, and United

States history. ("Economics in the Schools" 1963) Although it admitted that "some redeeming features exist," the Committee's conclusions were not encouraging. They noted that "(1) Most texts are oriented around the individual ... (2) Significant topics are omitted; others receive unwarranted attention ... (3) Routine description dominates analysis ... (4) Value judgments are seldom identified or examined ... [and] (5) Presentations are marred by some errors of fact and analysis ..." The Committee's chairman, Dr. Paul R. Olson of the University of Iowa, stated:

> The organization and method of approach adopted in most of the texts comes close to eliminating analysis by definition. Using the impact on the individual as a focus suggests a limited analysis of interdependence ... and organization along lines of bare chronology detracts from the analysis of relationships. Whatever the reason, it is clear that the student whose economic knowledge is derived from these texts will not have engaged in economic analysis; he will be some, but not much, better prepared to deal analytically with new economic problems with which he will be confronted than is his fellow of equal native ability who has not studied these texts. ("Economics in the Schools" 1963, p. xi)

Hopefully, things have improved a great deal in this area during the last five to six years. Certainly every new high school economics text and every new edition of the old texts which have appeared all claimed to be "based on the Task Force Report." If this is <u>really</u> true, many of the weaknesses mentioned above may have been corrected.*

Even if it is true, however, we will still have a long way to go, for it has become increasingly apparent that economics cannot be left only to 11th- and 12th-grade textbooks, however good they are. Supplementary

---

* Whether the new and revised textbooks were really an improvement over the old ones was being studied by Dr. Norman Townshend-Zellner of California State College at Fullerton at the time of writing of this paper. Townshend-Zellner's findings were presented to the Joint Council on Economic Education session at the annual meeting of the American Economic Association on December 28, 1969, in New York City. His paper, entitled <u>A New Look at the High School Economics Texts</u>, written with the assistance of Edwin R. Carr, was subsequently published by the Center for Economic Education, California State College, Fullerton, California.

materials are needed. And, if one waits until the 11th and 12th grades to explicitly focus on economic ideas, the evidence indicates that many misconceptions will already be firmly entrenched in students' minds, which makes learning especially difficult. And, of course, some students will already have dropped out of school.

The Materials Evaluation Committee

To provide greater professional assistance in helping teachers and school systems identify effective supplementary teaching materials a group of professional economists and educators, known as the Materials Evaluation Committee, was created in the summer of 1961 for the purpose of reviewing the thousands of pamphlets and other non-textbook economics teaching materials offered to the schools. Using the general framework of the Task Force Report, this committee has now issued three reports, in 1961, 1963, and 1969. The latest report covers films and filmstrips as well as written materials. (Study of Materials for Economic Education 1969) Annotated listings are made under 19 subject headings, with statements of alternative viewpoints on controversial issues and alternative materials in all cases. In this report, however, the Committee's chairman, Dr. Leon M. Schur of the University of Wisconsin, Milwaukee, noted:

> Examination of this Report will indicate serious gaps and deficiencies in materials. The Committee found that a relatively large number of materials from universities, the Federal Reserve System, and agencies of the government, met its criteria but that too few materials from business, labor, and agricultural groups did so. In addition, this Report indicates that there are adequate amounts of satisfactory materials in the areas of money and banking, international trade and finance, and most aspects of the functioning of our market economy. However, the volume of materials is generally inadequate in areas such as urban economic problems, including poverty in its various aspects, investment in human capital, comparative economic systems, and agriculture. Yet, some of the latter areas are those which are of greatest current concern to the nation and which could be used most effectively to involve secondary school students in economic analysis.

> It is hoped that this Report will stimulate the organizations producing and publishing supplementary materials in economics to fill the important gaps that exist. Finally, it should be noted that most of the materials selected are appropriate for senior high students and especially for the above-average reader. This Report indicates that fugitive materials are inadequate and almost non-existent for the junior high student, the below-average reader, the non-motivated, and the culturally deprived. It will be unfortunate if this serious neglect of these important categories of students is not remedied. (Study Materials for Economic Education 1969, p. 4)

The Test of Economic Understanding

In addition to the text and supplementary materials situation, other obstacles that must be surmounted if we are to fully implement the objectives of the Task Force Report involve measuring instruments and teacher preparation.

Almost simultaneously with the publication of the Task Force Report, a committee of distinguished economists and educators under the chairmanship of Dr. John Stalnaker, President of the National Merit Scholarship Foundation, began work on a carefully devised set of 50-item multiple choice tests designed to measure the type of economic understanding outlined in the Task Force Report. Each question was pretested on thousands of students, many were revised, and the final tests were carefully balanced for coverage, concepts involved, degree of difficulty, and types of understanding involved--all within the practical limits imposed by the need for a mass testing instrument. Now known as "The Test of Economic Understanding," these tests are available on a commercial basis from Science Research Associates and have been taken by thousands of people. Although designed primarily for high school students with or without formal courses in economics, the Test of Economic Understanding has also proven useful for examining high school teachers, college students, and others as well. What do the results show?

The results show that a large nationwide sample of social studies teachers, who had been out of college about eight years on the average, scored 34.1

on the 50-item test, compared to a mean score of 29.7 for high school seniors who had just completed a one-semester high school course in economics. A sample of college sophomores tested immediately after having taken a one-year college economics course scored about 41 on the test, and teachers who watched the year-long nationwide television course "The American Economy," three or more times a week during 1962-63 averaged slightly over 41 on the test when they were examined within a year of their completion of that course. (Bach and Saunders 1965)

Some of these differences may be interesting ones. But any way you look at it, the results are discouraging. Our high school students do not know much about the economy in which they live. Their teachers, on the average, do not know very much more. And college sophomores and inservice teachers who have recently studied economics still fall short of getting all of the questions right on a very basic test.

Teacher Training in Economics

To repair the damage already done, a great deal of effort has been expended in conducting summer institutes and other training programs for inservice teachers. The nationally televised course, "The American Economy," which was broadcast on 182 CBS television stations and an additional 54 educational and 5 independent television stations during the 1962-63 school year, represented one such major effort to alleviate, though certainly not cure, the problems of inadequate teacher preparation in economics. (Coleman 1963; Coleman and Alexander 1962) As indicated briefly above, the evidence indicates that the teachers who watched "The American Economy" regularly did indeed learn a great deal of economics. (Bach and Saunders 1965; Saunders 1964) Unfortunately, not enough teachers watched it.*

* The entire series of 160 lessons (128 lessons on economic content and 32 lessons on teaching methods) is still available in the form of 16mm sound film for teacher training purposes, and Harlan Smith of the University of Minnesota has edited a series of lesson plans for using 60 lessons selected from this series with above-average high school students.

It is simply ridiculous to keep turning out teachers poorly trained in economics and then turn to the much more expensive and more variable techniques of inservice training programs to repair this inadequacy. Robert Darcy has likened this exercise to "trying to pour spilled milk back into a bottle." (Darcy 1965, p. 74) If we are to make any really lasting progress in training teachers in economics, the job must also be undertaken on a much more serious basis at the preservice level, when the teachers of the future are 'tooling up' for the first time in preparing themselves for their subsequent teaching careers.

Since I have already spelled out my thinking in the area of preservice teacher training at some length elsewhere (Saunders 1966), I will not dwell on that subject here except to note that, as far as I know, California is the only state that has published recommendations concerning college preparation for the precollege teaching of economics. Fortunately, these recommendations are so close to my own ideas that I have no hesitancy in calling your attention to their publication. (College Preparation for Teaching Economics 1966) And, in the area of inservice teacher training, I think that it is important to note that there is some hard evidence that carefully thought-out programs can improve both the economic understanding of teachers and their ability to pass this increased understanding on to their students. The old notion that economics is too difficult or too boring to be learned by high school teachers or students just is not so--or, at least under certain conditions, it is not so.

If I may be pardoned the citation of personal experience, I would like to note that during the summers of 1963, 1964, and 1965, 75 different teachers attended four-week institutes in economic education at Carnegie-Mellon University. These institutes followed the pattern that was familiar at that time. The morning sessions were devoted to instruction in economic content. During

the afternoon sessions, the participating teachers worked together in trying to devise lesson plans to impart the basic economic ideas to their students. The figures in Table I in the Appendix indicated that even though these teachers began the institutes with test scores well above the national norms (81.5% as compared with 68.2% for social studies teachers in the norm group), they increased their economic understanding still further (to 89.9%) as measured by the Test of Economic Understanding (TEU) described above.

Table II in the Appendix is even more important. It indicates that the students of teachers attending the Carnegie institutes increased their understanding by more than the national norm groups used in standardizing the TEU. (The students of institute teachers increased their scores by 13.9%, compared to an 11.0% increase for students in the national norm group.) Although the difference is not large it is statistically significant, and it is more impressive if we consider the fact that most of the schools used in the national norm group offered a separate economics course only on an elective basis to predominantly college-bound students. All of the teachers attending the summer institutes at Carnegie, however, were from the state of Pennsylvania, which had just instituted a mandate requiring all high school graduates to take the equivalent of at least a one-third year course in economics, so their students covered a wider range of ability and were not electing the courses involved.

Despite this modest measure of success, however, it is clear that given the materials situation mentioned above, we were incredibly naive in supposing that, after only 20 mornings of economics instruction, even those very good teachers could develop adequate curriculum materials and lesson plans on their own. Materials development is a difficult and time-consuming task, requiring a level of technical and professional expertise not necessarily

possessed by typical or even good classroom teachers--even if they have the time to devote to this task, which, of course, they do not.

These summer institutes and subsequent experience also taught us that the results of on-campus institutes, with only one or two teachers from the same school system, can be neutralized by the problems of 'isolation' many of these teachers feel when they return with new ideas to an established environment that is not as committeed to innovation and change as they are. Turnover also becomes a serious problem in these situations, when the one or two trained teachers move on from classroom teaching to other educaticnal and non-educational endeavors. If possible, therefore, a 'critical mass' of teachers and administrators from a particular school system should be enlisted as a group and the institute should be held in the school environment where the importance of the whole effort is more readily perceived by those on the home grounds than is likely to be the case in somewhat removed and often diffused campus programs.

Economics and the K-12 Social Studies Curriculum

At about the time that our institute experiences were convincing us that the task of economic literacy in the schools was too important and too difficult to be left to make-shift inservice programs with predominantly 12th-grade teachers, others throughout the country were also coming to realize that economics is too much about us and too closely related to understanding in other areas to shove it off into a little corner or box labeled "economics."

If we really want our students to develop the ability to think analytically about important economic issues, it is important to integrate as much economic understanding as we can into the curriculum at all grade levels. It is important to do this, not to 'capture' existing courses and turn them into economics courses, but to enrich student understanding of the basic subject matter

of these courses. History is a classic case in point. Selected use of some limited amount of basic economic analysis should improve not only the student's economic understanding but his understanding of history as well. The same point, of course, can also be made for virtually every other course in the social studies curriculum.

Beginning in 1964, the Joint Council on Economic Education, an independent, non-profit, non-partisan educational organization, sought to organize and coordinate the developing sentiment mentioned above in a Developmental Economic Education Program (DEEP). (DEEP 1969) Three large school systems were designated 'model' school projects and given three-year grants to develop and evaluate teacher training methods and curriculum materials at verious grade levels. Some 27 other schools were also designated 'pilot' schools and were given more limited grants for a briefer period of time. At the base of the Joint Council's DEEP program was a two-part Teachers Guide to Developmental Economic Education Programs. (1964) Part I, entitled "Economic Ideas and Concepts," is an elaboration and explanation of the basic content of the Task Force Report; Part II is entitled "Suggestions for Grade Placement and Development of Economic Ideas and Concepts." Beyond this basic framework, each school system was encouraged to develop its own program in the hope that a diversity of successful patterns of economic education would emerge.

The Pittsburgh Developmental Economic Education Program (DEEP)

In the Pittsburgh DEEP project, with which I was associated as a part-time consultant, it was decided to focus on grades 8-12. With a full-time coordinator and a full-time lesson writer from the school system, it was decided first to prepare materials and train a limited number of teachers to field test the materials before engaging in large scale teacher training and materials distribution programs. (Soboslay 1968)

Initially, we hoped to operate on a six-stage cycle at each grade level: (1) develop preliminary materials; (2) train small groups of teachers in regular summer institutes covering the range of economic content that might be found in a good one-semester college introductory economics course; (3) use the trained teachers to field test the materials; (4) use the field test results to revise the materials; (5) hold four to eight short Saturday morning training sessions for large groups of teachers focusing on only the economic content most appropriate to the set of student materials involved; and (6) field test the material with the larger groups of teachers and their students. Even with a year's extension on the original three-year grant, this proved to be an overly amibitious endeavor, but the results of our struggles may be worth mentioning briefly.

After a series of planning meetings with professional economists, school administrators, school teachers, and community leaders, an overall strategy was hammered out and work begun. (Marland and Soboslay 1969) At the eighth-grade level, it was decided to develop a set of 22 student readings and a set of 22 suggested lesson plans for the teachers, emphasizing the theme of economic growth. These materials were designed to be integrated into the regular eighth-grade U.S. history course being taught in the Pittsburgh schools. (Schultz 1966) A special 25-item eighth-grade adaptation of the TEU was also developed to measure our results at this level. The results are shown in Table III in the Appendix.

Our preliminary eighth-grade materials were field tested with typical innercity students with an average I.Q. of a little over 102. During their regular eighth-grade history course, the students in the control group of regular teachers not using our materials increased their economic understanding as measured by our test by 9.4%, which is encouraging. A virtually identical

group of students using our preliminary material with a group of otherwise similar teachers who had attended a six-week summer institute, however, increased their economic understanding by over two and one half times as much (23.4%), and there is no evidence that they learned any less history. That is a big impact for 22 lessons over the span of a one-year history course.

How much of this improvement was due to the training of the teachers and how much was due to the materials is not clear from this experiment. But the reports of the field-test teachers were then used to revise the materials and prepare them in final form for wider distribution, following a special four-morning training session early in the fall of 1966-67.

No attempt was made to select the teachers attending the four 'short institute' training sessions, which were open to both Pittsburgh city teachers and other teachers from parochial and suburban public schools. Since student I.Q.'s tend to be higher in the parochial and suburban schools than in the Pittsburgh city schools, Table III shows separately the results for the students of Pittsburgh and non-Pittsburgh teachers attending the special short institute. Results are also shown for the students of a group of non-Pittsburgh teachers who did not attend the four-session short institute but who nevertheless volunteered to use our revised eighth-grade materials with their students.

The students of the group of untrained teachers using the revised materials increased their scores by 11.1%, which was more than the control group in the preceding year (9.4% increase), but less than the students of the teachers attending the short institute (14.8% increase). The increase of the non-Pittsburgh students of the teachers attending the short institute was 14.6%, slightly lower (but not significantly) than the increase of the Pittsburgh students; but both groups improved their scores by significantly more than the control group and by significantly less than the experimental group in

the preceding year. It would appear, therefore, that the eighth-grade DEEP materials work, but the amount of economics training that a teacher has is a critical variable in their effective use.

Table IV (see Appendix) indicates that much the same conclusion appears to be true with the ninth-grade materials that were developed, field tested, revised, and distributed simultaneously with the eighth-grade materials. At the ninth-grade level, however, the materials consisted of a unit of 28 readings and accompanying lesson plans designed to be used as a 12-week block in the civics or social science course taught in the Pittsburgh Public Schools. (Schultz Economics Readings 1967) Again, the attempt was to supplement and enrich, not capture, the existing curriculum. A special 13-reading supplemental unit on poverty was also developed later for use at the ninth-grade level, but it was not completed in time to be included in the testing program reported in Table IV in the Appendix. (Schultz The Economics of Poverty 1968)

The amount of time and effort involved in getting these eighth- and ninth-grade materials developed, tested, revised, retested, and distributed, the amount of planning and coordinating, and the amount of record keeping and communication involved in the teacher training programs are difficult to imagine for anyone who has not painfully suffered through this process. It became clear that, even with the year's extension on the original three-year plan, we could not run all of our materials and training programs at each grade level through all of the seven steps outlined above.

The tenth-grade, therefore, was given a shortcut treatment. Eight readings explaining international trade were developed to supplement the year-long world cultures course in the Pittsburgh Public Schools. (Schultz Readings in Economics 1967) Without the benefit of preliminary field testing, the

materials were distributed in final form at a short four-meeting institute and tested, with the results shown in Table V.

The differences in the average I.Q. of the control group and the test groups, which arose because the control group in this case and in the other cases reported was selected on the basis of teacher training and experience and not student characteristics, makes exact comparison difficult. Nevertheless, the evidence is strong that the students of the partly-trained teachers who used our eight readings throughout the year improved their test scores substantially; but the improvement of the students of the Pittsburgh teachers (10.2% increase in test scores) was significantly less than the improvement of the students of the non-Pittsburgh teachers who attended the short training institu (14.2% increase). (The improvement of the control group students was only 2.2%.)

At the eleventh-grade level, a brief five-reading unit of case studies on the Great Depression, with special emphasis on Pittsburgh, was developed for integration with the year-long U.S. history course taught in the Pittsburgh Public Schools. (Schultz Readings in Economics for 11th-Grade Students 1968) We were not successful in obtaining adequate data from control groups at this level, but the results of our testing program, shown in Table VI in the Appendix, indicate that the five lessons integrated into the year-long U.S. history course did not have as large an impact as the eight lessons we integrated into the year-long tenth grade World Cultures course.

At the 12th-grade level, a unit of 41 readings designed for a 12-week block in the problems of democracy course was devised and tested with the results shown in Table VII in the Appendix. (Schultz Readings in Economics for 12th-grade Students 1968) In the hands of comparably trained teachers, the revised materials were more effective than the preliminary materials

(13.8% score increase for students using revised materials compared to 9.7% for those using preliminary materials); but the students of the teachers attending the short training session and using the revised twelfth-grade material did not do as well as the national norm group on the TEU (6.9% increase compared to 11.0% for the national norm group). Although the students of the summer institute teachers using the revised materials did significantly better than the national norm group, they did not out-perform the students of the teachers who had attended the earlier summer institutes and used regular twelfth-grade materials shown in Table I.

The 12th-grade Pittsburgh DEEP material was designed to 'fit' at the end of the other materials prepared for the earlier grade levels, and the fact that none of the 12th-grade students tested had an opportunity to use the other materials may have contributed to their limited effectiveness. In any case, it appears that the 11th- and 12th-grade materials are the weakest part of the Pittsburgh DEEP 'package.' Given the materials situation cited above, however, these are the grade levels where conventional materials are the strongest and the Pittsburgh staff was probably wise in devoting the bulk of their efforts to the eighth- and ninth-grade levels where the greatest weaknesses exist and where the proven effectiveness of their materials is the greatest.

Impact and Implications of the DEEP Project

I think that the eighth- and ninth-grade results shown in Tables III and IV are convincing evidence that meaningful economics can be successfully integrated into existing social studies curricula below the 11th- and 12th-grade level for innercity students as well as for suburban students. Teacher training and specifically prepared materials are crucial variables, however, and I think more work needs to be done in developing measuring instruments

beyond the adaptation of the TEU used in these experiments. Tape recordings of student discussions of particular policy problems, for example, could be reviewed by outside experts to see if our students have really learned to use economic analysis in thinking about important social problems.

I hope it is obvious that I haven't reviewed the Pittsburgh DEEP results at such length because I think its materials are the 'last word' and should be used by everyone. Rather, I have sought to show what a substantial amount of effort is required to achieve even limited results, and I have sought to show the importance of systematic evaluation in knowing the differential impact of various parts of any curriculum system.

Although the Pittsburgh DEEP project focused on grades 8-12, other school systems in the DEEP program made substantial efforts at even earlier grade levels. Indeed, the Joint Council's Checklist carries a variety of 'classroom tested' elementary materials developed in various DEEP schools. More effort needs to be devoted to the problem of evaluation in the elementary grades, but the evidence indicates that elementary students can and do pick up the basic idea of production and distribution at this level as well as some understanding of what money is all about. It is a great help if they pick up the correct understandings.

To conclude briefly, the elementary and secondary social studies curriculum can't avoid teaching economics. The only questions--and it answers itself--is whether we should try to do a better job than we are now doing. Serious problems of teacher training, materials development, and controlled evaluation remain. But a start has been made. And I fervently hope that the days of individual schools striking out on their own with no attention to what has gone on before are now behind us. Through the Joint Council's DEEP Phase 2 program, a mechanism now exists whereby any school system in

the country can 'tune in' and acquaint itself with prior efforts and existing resources. Much that has been done needs to be improved; serious gaps remain; and each school must consider its own special situation; but there is no longer a need to 'start from scratch' in every effort.

It is impossible to put everything covered in the Task Force Report into a single 11th- or 12th-grade course, and it would defeat the Task Force's whole purpose if we simply carved up its table of contents and spread it piecemeal throughout the various grades. If we want to develop in our students a capacity to think rationally and objectively about important problems in the society in which they live (the Task Force's main, overriding objective), they need the type of factual and institutional information that students can apparently begin picking up as early as the elementary grades, and they need a few tools of analysis that help them identify certain key variables and relationships that make abstractions from the bustling, blooming confusion of reality, the tedium of literal descriptions, and the endless glossaries of 'key definitions.' Piaget's studies in learning theory and the eighth- and ninth-grade Pittsburgh DEEP results cited above indicate that students can develop this capacity to abstract at the junior high school level.

Social Problems and Analytical Tools

Above all, students need the opportunity to apply their factual knowledge and analytical tools to real-world policy problems. Such problems should abound in any lively and relevant high school social studies curriculum. If we are really concerned with the problems of democracy in today's world, for example, we must be concerned with the problems of poverty, discrimination, and segregation; the dilemmas of urban blight and environmental pollution; the threat of a military-industrial complex; the problems of economic stability

without widespread unemployment or rampant inflation; and the problems of individual freedom and initiative in an increasingly complex society.

The list of social problems with important economic aspects is a lengthy one and it is constantly changing. Indeed, the problems change much more rapidly than the analytical tools necessary to put them in perspective and analyze them. The pressures for a tax reduction in the early 1960s and the pressure for a tax increase in the late 1960s, for example, appear contradictory only to those who do not understand the basic notion of keeping aggregate demand in line with our economy's total productive capacity. The basic similarity of the economics of the draft, traffic congestion in major cities, and agricultural surpluses escapes those whose understanding of supply and demand does not extend beyond the poll-parrot stage of simply mouthing the words or drawing large Xs on the blackboard. The great economic opportunities of peace are lost on those who cannot see beyond the fact that many of our resources are presently employed in fighting or preparing for war. The basic analysis of social costs and benefits that diverge from private costs and benefits cuts across a whole host of current problems.

A set of basic analytical tools, which the evidence indicates high school students can learn, can be applied to any number of problems that happen to be current or relevant at any given time. Herein lies our hope and our problem. No one can foresee the problems that will be most relevant in 1985 or 2000. Yet, if the past is any clue, they will be quite different from the problems now receiving the most attention, and our present students will still have to cope with them.

If we can give our students extensive practice in applying a basic set of tools to a variety of current problems, chances are much greater that they will be able to transfer these habits of thought and this way of thinking

to a different set of problems in later life than if we simply swamp them with the details of today's--or, even worse, yesterday's--'hot' issues.

The size of the basic tool kit that can be mastered and used effectively no doubt differs from one situation to another. But, given a choice between learning to use the basic concepts of scarcity, opportunity cost, and interdependence or trying to cover all of the concepts mentioned in the Task Force Report, my priorities are clear--do a few things well rather than try to cover the waterfront. Time must be provided to allow students to work things through for themselves. Teachers and written materials must resist the tendency to 'tell' the students the answer too soon or 'show' them the relevant analysis rather than letting them chew and digest a carefully graduated set of problems on their own. Games and simulation exercises can go a long way in making certain problems and analyses more exciting. In the last analysis, we need better trained teachers and more adequate and more flexible materials. (Bibliography of Games-Simulations 1968)

Keeping Materials Current and Relevant

Most commercial publishers aim at national markets and operate on a cycle of five years or longer, which renders the use of problems units in conventional texts of limited value. The farm problem does not have equal appeal in all parts of the country, for example, and interest in automation tends to wax and wane with the current level of unemployment. Given the opportunity cost of developing more relevant and stimulating problems, however, the typical teacher feels constrained to rely on the text, even though the interest of his students may be elsewhere. I would make one humble suggestion in this area. Namely, reduce the length of present texts and have them focus on the development of a core of analytical tools. Then, publish at more

frequent intervals a variety of satellite materials that apply the tools to an understanding of more current and relevant materials.

There is no black law of supply and demand, but the kinds of examples and application problems that would make supply and demand relevant and understandable to a black innercity ghetto youth are likely to be quite different from the examples and applications that would excite a student in our equally homogeneous, white, suburban ghettos. Interest in consumer protection waxes and wanes. One of Ralph Nader's case studies makes exciting reading for a while, but its value may fade considerably by the time it wears through the next five-year edition, especially after the opportunity to see a real live Corvair in action has all but vanished. Publishers might be able to keep up a stream of carefully worked out cases and applications in a brief pamphlet form to orbit around a more permanent hard-covered text if the text confined itself to basic fundamentals which did not have to be revised with each change in the current economic and social indicators.

Choice and Values

It takes more than economics to fully understand and cope with the world in which we live, but to date we have not done nearly as well as we should have in showing how economic analysis illuminates the choices facing us. Above all else, an understanding of economics teaches the fundamental lesson of choice. And the analysis of economic policy problems inevitably weaves together the worlds of "what is" and "what ought to be." The constructive handling of controversy on economic issues puts great demands upon the teacher, of course, but it can be no other way in a society that truly values freedom.

I have left to the end the question of values and the presumed 'crisis' in this area, and I can do no better than quote a man who is much more perceptive than myself in this area. John R. Coleman, President of Haverford College, has said:

The more I listen to the young expound their values, the more hopeful I become about a rapprochement with their elders. Fundamentally, the values of the two generations are not very far apart. Past the rhetoric, past the anger, past the confusion too, there is a thrust from the young which says, "The old goals may be all right, but ..." The 'buts' loom large enough that no attempt to do business as usual, be it in industry, in banking, in government, in labor, in education, or in anything else, will succeed in winning the allegiance of the next wave of leaders. Yet I do not find the basic objectives of my students very different from the ones in the list with which I started. Put the 'buts' on the end, and they still come out saying what I thought a lot of us meant all along. Try it.

1. A competitive, consumer-oriented economy. BUT competition is no guarantee by itself that consumers will be well served.

2. Stability in employment at a high level, and in prices. BUT full employment must come through devises other than a military budget. And those hit by such unemployment and inflation as remain must be provided for.

3. A high rate of economic growth. BUT our growth is no end in itself, and some kinds of growth must be curbed for the social good of all.

4. An equitable income distribution. BUT this has to mean all groups sharing in the wealth this nation produces; no one can be left out.

5. An environment of freedom. BUT the threats to that freedom are omnipresent; they come from all sources, and each has to be dealt with on its own terms.

If the goals are not so very different for the different generations, why is my generation so often called irrelevant by today's students? I think the answer is clear: it is because we have yet to show that we mean those goals as guidelines for our actions. ...

Nothing distinguishes the young generation so much from ours as its candor and its belief that men can and should mean what they say. The time for doubletalk, excuses, and hypocrisy is past, if I read the signs correctly. ... If we are serious about wanting to unite this economy behind meaningful goals, I suggest that we'll have to take the words we have long been using, state them with more conviction than ever, and put our actions where our convictions are. (Coleman 1969, pp. 11-13)

H.G. Wells once said, "Human history becomes more and more a race between education and catastrophe." And Thomas Jefferson stated, "I know of no safe depository of the ultimate powers of the country but the people themselves; and if we think them not enlightened enough to exercise their control with

wholesome discretion, the remedy is not to take it from them, but to inform their discretion with education."

Let's get on with the job.

APPENDIX

BIBLIOGRAPHY

Bach, G.L. and P. Saunders. "Economic Education: Aspirations and Achievements." The American Economic Review. Vol. 55 (June 1965) pp. 329-356.

Bibliography of Games-Simulations for Teaching Economics and Related Subjects. New York: Joint Council on Economic Education, January 1968.

Boulding, Kenneth E. "What Don't We Know That Hurts Us?" Paper presented at the meeting of the Council Directors of the Joint Council on Economic Education, San Juan, Puerto Rico, September 30, 1967.

Checklist: Classroom Materials for the Teachers and Student. New York: Joint Council on Economic Education, September 1969.

Coleman, John R. "Economic Literacy: What Role for Television?" American Economic Review, Proceedings. Vol. 53 (May 1963) pp 645-652.

_____. "Economic Understanding and Social Values: Can There be a Consensus Any Longer?" Paper presented at the American Bankers Association Symposium on Public Policy and Economic Understanding, Washington, D.C., November 17, 1969.

_____. "The American Economy: A Plea for Understanding." The Bulletin of the National Association of Secondary School Principals. Vol. 47 (April 1963) pp. 182-189.

Coleman, John R., and K. O. Alexander. The American Economy: College of the Air Television Study Guide. New York: McGraw-Hill Book Co., 1962.

College Preparation for Teaching Economics. Sacramento, Calif.: California State Department of Education, November 1966.

Darcy, Robert L. "Economic Education for Teachers: The Preservice Program." The Bulletin of the National Association of Secondary School Principals. No. 304 (November 1965) pp. 74-85.

DEEP 1969: Perspectives on a Five-Year Experiment in Curriculum Change. New York: Joint Council on Economic Education, 1969.

Developmental Economic Education Program, Phase 2 (Cooperating School Program). New York: Joint Council on Economic Education, 1968.

"Economics in the Schools: A Report by a Special Textbook Study Committee of the Committee on Economic Education of the American Economic Association." American Economic Review. Vol 53 (March 1963).

Economic Education in the Schools: Report of the National Task Force on Economic Education. New York: Committee for Economic Development, 1961.

Marland, S.P., Jr., and J.F. Soboslay. "School Administrators' Report." DEEP 1969: Perspectives on a Five-Year Experiment in Curriculum Change. New York: Joint Council on Economic Education, 1969. pp. 65-72.

Saunders, Phillip. "The Effectiveness of 'The American Economy' in Training Secondary School Teachers." The American Economic Review. Vol. 54 (June 1964) pp. 395-403.

_____. "Preparing Future Teachers For Economic Competence: Content Appraisal." Social Education. Vol 30 (April 1966) pp. 247-250.

Schultz, Mindella. Economics Readings for Students of Eighth Grade United States History and accompanying Teachers Manual. Pittsburgh: Board of Public Education, 1966.

_____. Economics Readings for Students of Ninth Grade Social Science and accompanying Teachers Manual. Pittsburgh: Board of Public Education, 1967.

_____. The Economics of Poverty and accompanying Teachers Manual. Pittsburgh: Board of Public Education, 1968.

_____. Readings in Economics for 10th-Grade Students of World Cultures and accompanying Teachers Manual. Pittsburgh: Board of Public Education, 1967.

_____. Readings in Economics for 11th-Grade Students of United States History and accompanying Teachers Manual. Pittsburgh: Board of Public Education, 1968.

_____. Readings in Economics for 12th-Grade Students of American Democracy and accompanying Teachers Manual. Pittsburgh: Board of Public Education, 1968.

Silk, L., and P. Saunders. Readings in the World of Economics. St. Louis: McGraw-Hill Book Co., Webster Division, 1969.

Smith, Harlan, ed. Study Guide for Selected Sixty-Session Series of "The American Economy" T.V. Films. New York: Joint Council on Economic Education, 1964.

Soboslay, John F. "Philosophy for an Economics Program." Pennsylvania Social Studies News and Views. Vol. 15 (September 1968) pp. 10-12.

Study Materials for Economic Education in the Schools: Reports of Materials Evaluation Committees to the Joint Council on Economic Education. New York: Joint Council on Economic Education, 1969.

Teachers Guide to Developmental Economic Education Program: Part I--Economic Ideas and Concepts and Part II--Suggestions for Grade Placement and Development of Economic Ideas and Concepts. New York: Joint Council on Economic Education, 1964.

Test of Economic Understanding: Interpretive Manual and Discussion Guide. Chicago: Science Research Associates, 1964.

TABLE I

Increases in Economic Understanding
by Western Pennsylvania Teachers
Attending Four-Week Summer Institute in Economics
(Combined Scores on Forms A and B of
The Test of Economic Understanding Compared With
National Norm Groups on This Test)

Group	Before	After	Change
25 teachers in 1965	80.2%	90.1%	+ 9.9%
25 teachers in 1964	80.6%	90.0%	+ 9.4%
25 teachers in 1963	80.8%	89.6%	+ 5.8%
Total for 75 teachers	81.5%	89.9%	+ 8.4%
Norm Group of 1,633 H.S. Economics Teachers	--	73.8%	--
Norm Group of 4,667 H.S. Social Studies Teachers	--	68.2%	--

TABLE II

Increases in Economic Understanding
by Twelfth Grade Economics Students
of the 75 Teachers Covered in Table I
(Scores on Form A of the
Test of Economic Understanding Compared With
National Norm Groups on This Test)

Group	No. of Students	Average I. Q.	Before	After	Change
Students of Inst. Teachers	2,540	111.0	46.4%	60.3%	+13.9%
National Norm, No Econ.	4,601	---	48.4%		
National Norm After Econ.	1,834	---		59.4%	+11.0% *

*Difference in Norm Groups

TABLE III

TEST RESULTS ON A SPECIAL EIGHTH-GRADE VERSION OF THE TEST OF ECONOMIC UNDERSTANDING

Group	No. of Students	Average I. Q.	Before	After	Change
4 Pittsburgh Teachers Attending Summer Institute Using Preliminary Materials 1965-66 (4 classes)	178	102.7	29.8%	53.2%	+23.4%
5 Otherwise Similar Pittsburgh Teachers Not Attending Summer Institute and Not Using Preliminary Materials, 1965-66 (5 classes)	183	102.2	29.7%	39.1%	+9.4%
24 Pittsburgh Teachers Attending Special Short Institute and Using Revised Materials, 1966-67	1,022	104.8	38.0%	52.8%	+14.8%
29 Non-Pittsburgh Teachers Attending Special Short Institute and Using Revised Materials, 1966-67	1,829	111.1	42.0%	56.6%	+14.6%
5 Otherwise Similar Non-Pittsburgh Teachers Not Attending Special Short Insitute and Using Revised Materials, 1966-67	205	110.0	40.5%	51.6%	+11.1%

SE000

090036

TABLE IV

TEST RESULTS ON A SPECIAL NINTH-GRADE VERSION OF THE TEST OF ECONOMIC UNDERSTANDING

Group	No. of Students	Average I.Q.	Before	After	Change
7 Pittsburgh Teachers Attending Summer Institute Using Preliminary Materials, 1965-66 (4 classes)	300	100.7	39.2%	53.2%	+14.0%
7 Otherwise Similar Pittsburgh Teachers Not Attending Summer Institute and Not Using Preliminary Materials, 1965-66 (5 classes)	418	100.1	39.6%	44.8%	+5.2%
14 Pittsburgh Teachers Attending Special Short Institute and Using Revised Materials, 1966-67	887	103.82	44.2%	54.0%	+9.8%
11 Non-Pittsburgh Teachers Attending Special Short Institute and Using Revised Materials, 1966-67	1,189	108.56	44.2%	55.6%	+11.4%
2 Otherwise Similar Non-Pittsburgh Teachers Not Attending Special Short Institute and Using Revised Materials, 1966-67	127	105.22	37.0%	46.2%	+9.2%

000037

TABLE V

TEST RESULTS ON A SPECIAL TENTH-GRADE VERSION OF THE TEST OF ECONOMIC UNDERSTANDING

Grade	No. of Students	Average I. Q.	Before	After	Change
33 Non-Pittsburgh Teachers Attending Special Short Institute Using Final Materials, 1967-68	2,889	107.8	42.8%	56.6%	+14.2%
19 Pittsburgh Teachers Attending Special Short Institute Using Final Materials, 1967-68	988	105.9	41.7%	51.9%	+10.2%
5 Otherwise Similar Teachers Not Attending Short Institute and Not Using Final Materials, 1967-68	114	101.8	40.0%	42.2%	+ 2.2%

TABLE VI

TEST RESULTS ON A SPECIAL ELEVENTH-GRADE VERSION OF THE TEST OF ECONOMIC UNDERSTANDING

Grade	No. of Students	Average I. Q.	Before	After	Change
11 Pittsburgh Teachers Attending Summer Institute Using Preliminary Materials, 1966-67	847	103.1	43.2%	50.6%	+ 7.4%
21 Pittsburgh Teachers Attending Special Short Institute Using Final Materials, 1967-68	1,178	104.5	42.5%	49.1%	+ 6.6%
30 Non-Pittsburgh Teachers Attending Special Short Institute Using Final Materials, 1967-68	1,777	109.6	44.9%	51.3%	+ 6.4%
7 Out-of-State Teachers Attending Summer Institute Using Final Materials, 1967-68	299	112.4	49.6%	57.3%	+ 7.7%

00038

BEST COPY AVAILABLE

09039

TABLE VII

TWELFTH-GRADE TEST RESULTS ON THE 50-ITEM TEST OF ECONOMIC UNDERSTANDING

Group	No. of Students	Average I.Q.	Before	After	Change
National Norm (no economics)	4,601	-------	48.4%	-----	
National Norm (economics)	1,834	-------	-----	59.4%	+11.0% *
13 Teachers Attending Summer Institute Using Preliminary Materials, 1966-67	725	109.9	46.0%	55.7%	+ 9.7%
11 Teachers Attending Summer Institute Using Final Materials 1967-68	572	110.8	47.3%	61.1%	+13.8%
21 Teachers Attending Special Short Institute Using Final Materials, 1967-68	1,300	110.4	46.5%	53.4%	+ 6.9%

*Difference in National Norm Groups